RESEARCH TO CLINICAL PRACTICE

April 2023

NATA RESEARCH & EDUCATION FOUNDATION

USE OF TRACKING TECHNOLOGY

What's a Whoop? Catapult? Is this the medieval era? Have you closed your rings today? Whoop, Catapult, Apple, and other wearable technology companies have created devices and dashboards to provide more information about our bodies than ever before. As technology has advanced, so has its use in clinical settings to assess external (e.g., distance traveled, jump count) and internal (e.g., heart-rate response) load and recovery.[1] While there are many benefits to using technology, including efficient collection methods and a more holistic view of the athlete, it is important that the technology is both valid and reliable. As such, we can have trust in the data and use it strategically to improve clinical and patient-reported outcomes.[1,2] Furthermore, it is critical to include all stakeholders (e.g., coaches, healthcare providers, administrators) when considering investing in technology to ensure that the needs of all parties are met and considered.[1]

from RECENT ARTICLES

Implementing a critical decision making process is important to ensure effective application of technology. *Windt et al, 2020*

Clinicians should consider these questions in their decision making process:

- Would the promised information be helpful?
- Can you trust the information you'll be getting?
- Can you integrate, manage, and analyze the data effectively?
- Can you implement the technology in your practice?

Findings suggest wearable technology can help to quantify the workload of specific drills in practice to help identify what best replicates game play. Clinicians use this information to develop objective return-to-play plans for athletes. *Kupperman et al, 2020*

Advancements in technology have allowed running mechanics to be assessed outside of laboratory settings. Training and program design can be informed by collected information. *Long et al, 2022*

ATHLETIC TRAINING RESEARCH AGENDA

Use of Tracking Technology is a research priority of the Athletic Training Research Agenda under **Health Information Technology.** *Learn More*

NATA FOUNDATION FUNDED RESEARCH

Alexandra F. DeJong Lempke, PhD, ATC
2020 Doctoral Research Grant Recipient
"In-field gait training for runners with exercise-related lower leg pain"

Outdoor gait-training along with home exercises was more effective than home exercises alone for runners with ERLLP by improving PROMs and influencing contact time and cadence at 4-weeks. Lasting effects were observed at 6-weeks. Read more

- 2022 Free Communications: *DeJong Lempke et al, 2022 (S-151)*
- Publication: **"Sensor-based gait training to reduce contact time for runners with exercise-related lower leg pain: a randomised controlled trial"** *DeJong Lempke et al, 2022*

PODCASTS

- Wearable Technology in Sport, Fitness, and Health w/ Dr. Lauren Costantini, PhD
- Will Ahmed on Whoop, The Future of Wearables, and What is Takes to Lead - WHOOP Podcast
- Jamie Hepner - How GPS Wearable Technology is Helping Athletes and Teams Win - Sports Analytics

References

1. Windt J, MacDonald K, Taylor D, Zumbo BD, Sporer BC, Martin DT. "To tech or not to tech?" A critical decision-making framework for implementing technology in Sport. Journal of Athletic Training. 2020;55(9):902-910. doi:10.4085/1062-6050-0540.19.
2. Luczak T, Burch R, Lewis E, Chander H, Ball J. State-of-the-art review of Athletic Wearable Technology: What 113 strength and Conditioning Coaches and athletic trainers from the USA said about technology in sports. International Journal of Sports Science & Coaching. 2019;15(1):26-40. doi:10.1177/1747954119885244.